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<110> Yoshinaga, Steven

<120> Novel Polypeptides Involved in Immune Response

<130> A-579D

<140> 09/728,421

<141> 2000-11-28

<150> PCT/US00/01871

<151> 2000-01-27

<150> US 09/264,527

<151> 1999-03-08

<150> US 09/244,448

<151> 1999-02-03

<160> 35

<170> PatentIn version 3.0

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 Leu Leu Thr Gly Glu Ile Asn Gly Ser Ala Asp His Arg Met Phe Ser
 20 25 30
 ttt cac aat gga ggt gta cag att tct tgt aaa tac cct gag act gtc
 144
 Phe His Asn Gly Gly Val Gln Ile Ser Cys Lys Tyr Pro Glu Thr Val
 35 40 45
 cag cag tta aaa atg cga ttg ttc aga gag aga gaa gtc ctc tgc gaa
 192
 Gln Gln Leu Lys Met Arg Leu Phe Arg Glu Arg Glu Val Leu Cys Glu
 50 55 60
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 Leu Thr Lys Thr Lys Gly Ser Gly Asn Ala Val Ser Ile Lys Asn Pro
 65 70 75 80
 atg ctc tgt cta tat cat ctg tca aac aac agc gtc tct ttt ttc cta
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 Met Leu Cys Leu Tyr His Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
 85 90 95
 aac aac cca gac agc tcc cag gga agc tat tac ttc tgc agc ctg tcc
 336
 Asn Asn Pro Asp Ser Ser Gln Gly Ser Tyr Tyr Phe Cys Ser Leu Ser
 100 105 110
 att ttt gac cca cct cct ttt caa gaa agg aac ctt agt gga gga tat
 384
 Ile Phe Asp Pro Pro Pro Phe Gln Glu Arg Asn Leu Ser Gly Gly Tyr
 115 120 125
 ttg cat att tat gaa tcc cag ctc tgc tgc cag ctg aag ctc tgg cta
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 Leu His Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Leu Trp Leu
 130 135 140
 ccc gta ggg tgt gca gct ttc gtt gtg gta ctc ctt ttt gga tgc ata
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 Pro Val Gly Cys Ala Ala Phe Val Val Val Leu Leu Phe Gly Cys Ile
 145 150 155 160
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 528
 Leu Ile Ile Trp Phe Ser Lys Lys Lys Tyr Gly Ser Ser Val His Asp
 165 170 175
 cct aat agt gaa tac atg ttc atg gcg gca gtc aac aca aac aaa aag
 576
 Pro Asn Ser Glu Tyr Met Phe Met Ala Ala Val Asn Thr Asn Lys Lys
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Phe His Asn Gly Gly Val Gln Ile Ser Cys Lys Tyr Pro Glu Thr Val
35 40 45

Gln Gln Leu Lys Met Arg Leu Phe Arg Glu Arg Glu Val Leu Cys Glu
50 55 60

Leu Thr Lys Thr Lys Gly Ser Gly Asn Ala Val Ser Ile Lys Asn Pro
65 70 75 80

Met Leu Cys Leu Tyr His Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
85 90 95

Asn Asn Pro Asp Ser Ser Gln Gly Ser Tyr Tyr Phe Cys Ser Leu Ser
100 105 110

Ile Phe Asp Pro Pro Pro Phe Gln Glu Arg Asn Leu Ser Gly Gly Tyr
115 120 125

Leu His Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Leu Trp Leu
130 135 140

Pro Val Gly Cys Ala Ala Phe Val Val Val Leu Leu Phe Gly Cys Ile
145 150 155 160

Leu Ile Ile Trp Phe Ser Lys Lys Lys Tyr Gly Ser Ser Val His Asp
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cont
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Phe His Asn Gly Gly Val Gln Ile Ser Cys Lys Tyr Pro Glu Thr Val
35 40 45

Gln Gln Leu Lys Met Arg Leu Phe Arg Glu Arg Glu Val Leu Cys Glu
50 55 60

Leu Thr Lys Thr Lys Gly Ser Gly Asn Ala Val Ser Ile Lys Asn Pro
65 70 75 80

Met Leu Cys Leu Tyr His Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
85 90 95

Asn Asn Pro Asp Ser Ser Gln Gly Ser Tyr Tyr Phe Cys Ser Leu Ser
100 105 110

Ile Phe Asp Pro Pro Pro Phe Gln Glu Arg Asn Leu Ser Gly Gly Tyr
115 120 125

Leu His Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Leu Trp Leu
130 135 140

Pro Val Gly Cys Ala Ala Phe Val Val Val Leu Leu Phe Gly Cys Ile
145 150 155 160

Leu Ile Ile Trp Phe Ser Lys Lys Lys Tyr Gly Ser Ser Val His Asp
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Ser Arg Leu Ala Gly Val Thr Ser
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Asp Ser Asn Glu Val Ser Leu Ser Cys Arg Tyr Ser Tyr Asn Leu Leu
35 40 45
Ala Lys Glu Phe Arg Ala Ser Leu Tyr Lys Gly Val Asn Ser Asp Val
50 55 60
Glu Val Cys Val Gly Asn Gly Asn Phe Thr Tyr Gln Pro Gln Phe Arg
65 70 75 80
Ser Asn Ala Glu Phe Asn Cys Asp Gly Asp Phe Asp Asn Glu Thr Val
85 90 95
Thr Phe Arg Leu Trp Asn Leu His Val Asn His Thr Asp Ile Tyr Phe
100 105 110
Cys Lys Ile Glu Phe Met Tyr Pro Pro Pro Tyr Leu Asp Asn Glu Arg
115 120 125
Ser Asn Gly Thr Ile Ile His Ile Lys Glu Lys His Leu Cys His Thr
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Gln Ser Ser Pro Lys Leu Phe Trp Ala Leu Val Val Val Ala Gly Val
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Leu Phe Cys Tyr Gly Leu Leu Val Thr Val Ala Leu Cys Val Ile Trp
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Thr Asn Ser Arg Arg Asn Arg Leu Leu Gln Val Thr Thr Met Asn Met
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20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
35 40 45

Val Xaa Xaa Ser Cys Xaa Tyr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
50 55 60

Xaa Xaa Xaa Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Val Xaa Xaa Cys Xaa
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
85 90 95

Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Asn Xaa Xaa Val Xaa Phe Xaa Leu
100 105 110

Xaa Asn Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Tyr Phe Cys Xaa Xaa Xaa
115 120 125

Xaa Xaa Xaa Pro Pro Pro Xaa Xaa Xaa Xaa Xaa Ser Xaa Gly Xaa
130 135 140

Xaa Xaa His Ile Xaa Glu Xaa Xaa Leu Cys Xaa Xaa Xaa Xaa Xaa Xaa
145 150 155 160

Lys Leu Xaa Trp Xaa Leu Xaa Val Xaa Xaa Xaa Xaa Xaa Phe Xaa Xaa
165 170 175

Xaa Xaa Leu Leu Xaa Xaa Xaa Xaa Leu Xaa Xaa Ile Trp Xaa Xaa Xaa
180 185 190

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Xaa
195 200 205

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg
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gtt tgg aag aag ctc cat gtt tct agc ggg ttc ttt tct ggt ctt ggt

96

Val Trp Lys Lys Leu His Val Ser Ser Gly Phe Phe Ser Gly Leu Gly
20 25 30

ctg ttc ttg ctg ctg ttg agc agc ctc tgt gct gcc tct gca gag act

144

Leu Phe Leu Leu Leu Leu Ser Ser Leu Cys Ala Ala Ser Ala Glu Thr
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gaa gtc ggt gca atg gtg ggc agc aat gtg gtg ctc agc tgc att gac

192

Glu Val Gly Ala Met Val Gly Ser Asn Val Val Leu Ser Cys Ile Asp
50 55 60

ccc cac aga cgc cat ttc aac ttg agt ggt ctg tat gtc tat tgg caa

240

Pro His Arg Arg His Phe Asn Leu Ser Gly Leu Tyr Val Tyr Trp Gln
65 70 75 80

atc gaa aac cca gaa gtt tcg gtg act tac tac ctg cct tac aag tct

288

Ile Glu Asn Pro Glu Val Ser Val Thr Tyr Tyr Leu Pro Tyr Lys Ser
85 90 95

cca ggg atc aat gtg gac agt tcc tac aag aac agg ggc cat ctg tcc

336

Pro Gly Ile Asn Val Asp Ser Ser Tyr Lys Asn Arg Gly His Leu Ser
100 105 110

ctg gac tcc atg aag cag ggt aac ttc tct ctg tac ctg aag aat gtc

384

Leu Asp Ser Met Lys Gln Gly Asn Phe Ser Leu Tyr Leu Lys Asn Val
115 120 125

acc cct cag gat acc cag gag ttc aca tgc cgg gta ttt atg aat aca

432

Thr Pro Gln Asp Thr Gln Glu Phe Thr Cys Arg Val Phe Met Asn Thr
130 135 140

gcc aca gag tta gtc aag atc ttg gaa gag gtg gtc agg ctg cgt gtg

480

Ala Thr Glu Leu Val Lys Ile Leu Glu Glu Val Val Arg Leu Arg Val
145 150 155 160

gca gca aac ttc agt aca cct gtc atc agc acc tct gat agc tcc aac
 528
 Ala Ala Asn Phe Ser Thr Pro Val Ile Ser Thr Ser Asp Ser Ser Asn
 165 170 175

ccg ggc cag gaa cgt acc tac acc tgc atg tcc aag aat ggc tac cca
 576
 Pro Gly Gln Glu Arg Thr Tyr Thr Cys Met Ser Lys Asn Gly Tyr Pro
 180 185 190

gag ccc aac ctg tat tgg atc aac aca acg gac aat agc cta ata gac
 624
 Glu Pro Asn Leu Tyr Trp Ile Asn Thr Thr Asp Asn Ser Leu Ile Asp
 195 200 205

acg gct ctg cag aat aac act gtc tac ttg aac aag ttg ggc ctg tat
 672
 Thr Ala Leu Gln Asn Asn Thr Val Tyr Leu Asn Lys Leu Gly Leu Tyr
 210 215 220

gat gta atc agc aca tta agg ctc cct tgg aca tct cgt ggg gat gtt
 720
 Asp Val Ile Ser Thr Leu Arg Leu Pro Trp Thr Ser Arg Gly Asp Val
 225 230 235 240

ctg tgc tgc gta gag aat gtg gct ctc cac cag aac atc act agc att
 768
 Leu Cys Cys Val Glu Asn Val Ala Leu His Gln Asn Ile Thr Ser Ile
 245 250 255

agc cag gca gaa agt ttc act gga aat aac aca aag aac cca cag gaa
 816
 Ser Gln Ala Glu Ser Phe Thr Gly Asn Asn Thr Lys Asn Pro Gln Glu
 260 265 270

acc cac aat aat gag tta aaa gtc ctt gtc ccc gtc ctt gct gta ctg
 864
 Thr His Asn Asn Glu Leu Lys Val Leu Val Pro Val Leu Ala Val Leu
 275 280 285

gcg gca gcg gca ttc gtt tcc ttc atc ata tac aga cgc acg cgt ccc
 912
 Ala Ala Ala Ala Phe Val Ser Phe Ile Ile Tyr Arg Arg Thr Arg Pro
 290 295 300

cac cga agc tat aca gga ccc aag act gta cag ctt gaa ctt aca gac
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 His Arg Ser Tyr Thr Gly Pro Lys Thr Val Gln Leu Glu Leu Thr Asp
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cac gcc
 966
 His Ala

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<213> Mus musculus

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35 40 45
Glu Val Gly Ala Met Val Gly Ser Asn Val Val Leu Ser Cys Ile Asp
50 55 60
Pro His Arg Arg His Phe Asn Leu Ser Gly Leu Tyr Val Tyr Trp Gln
65 70 75 80
Ile Glu Asn Pro Glu Val Ser Val Thr Tyr Tyr Leu Pro Tyr Lys Ser
85 90 95
Pro Gly Ile Asn Val Asp Ser Ser Tyr Lys Asn Arg Gly His Leu Ser
100 105 110
Leu Asp Ser Met Lys Gln Gly Asn Phe Ser Leu Tyr Leu Lys Asn Val
115 120 125
Thr Pro Gln Asp Thr Gln Glu Phe Thr Cys Arg Val Phe Met Asn Thr
130 135 140
Ala Thr Glu Leu Val Lys Ile Leu Glu Glu Val Val Arg Leu Arg Val
145 150 155 160
Ala Ala Asn Phe Ser Thr Pro Val Ile Ser Thr Ser Asp Ser Ser Asn
165 170 175
Pro Gly Gln Glu Arg Thr Tyr Thr Cys Met Ser Lys Asn Gly Tyr Pro
180 185 190
Glu Pro Asn Leu Tyr Trp Ile Asn Thr Thr Asp Asn Ser Leu Ile Asp
195 200 205
Thr Ala Leu Gln Asn Asn Thr Val Tyr Leu Asn Lys Leu Gly Leu Tyr
210 215 220
Asp Val Ile Ser Thr Leu Arg Leu Pro Trp Thr Ser Arg Gly Asp Val
225 230 235 240

Leu Cys Cys Val Glu Asn Val Ala Leu His Gln Asn Ile Thr Ser Ile
245 250 255

Ser Gln Ala Glu Ser Phe Thr Gly Asn Asn Thr Lys Asn Pro Gln Glu
260 265 270

Thr His Asn Asn Glu Leu Lys Val Leu Val Pro Val Leu Ala Val Leu
275 280 285

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His Ala

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<212> PRT

<213> Mus musculus

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35 40 45

Glu Val Gly Ala Met Val Gly Ser Asn Val Val Leu Ser Cys Ile Asp
50 55 60

Pro His Arg Arg His Phe Asn Leu Ser Gly Leu Tyr Val Tyr Trp Gln
65 70 75 80

Ile Glu Asn Pro Glu Val Ser Val Thr Tyr Tyr Leu Pro Tyr Lys Ser
85 90 95

Pro Gly Ile Asn Val Asp Ser Ser Tyr Lys Asn Arg Gly His Leu Ser
100 105 110

Leu Asp Ser Met Lys Gln Gly Asn Phe Ser Leu Tyr Leu Lys Asn Val
115 120 125

Thr Pro Gln Asp Thr Gln Glu Phe Thr Cys Arg Val Phe Met Asn Thr
130 135 140

Ala Thr Glu Leu Val Lys Ile Leu Glu Glu Val Val Arg Leu Arg Val
 145 150 155 160
 Ala Ala Asn Phe Ser Thr Pro Val Ile Ser Thr Ser Asp Ser Ser Asn
 165 170 175
 Pro Gly Gln Glu Arg Thr Tyr Thr Cys Met Ser Lys Asn Gly Tyr Pro
 180 185 190
 Glu Pro Asn Leu Tyr Trp Ile Asn Thr Thr Asp Asn Ser Leu Ile Asp
 195 200 205
 Thr Ala Leu Gln Asn Asn Thr Val Tyr Leu Asn Lys Leu Gly Leu Tyr
 210 215 220
 Asp Val Ile Ser Thr Leu Arg Leu Pro Trp Thr Ser Arg Gly Asp Val
 225 230 235 240
 Leu Cys Cys Val Glu Asn Val Ala Leu His Gln Asn Ile Thr Ser Ile
 245 250 255
 Ser Gln Ala Glu Ser Phe Thr Gly Asn Asn Thr Lys Asn Pro Gln Glu
 260 265 270
 Thr His Asn Asn Glu Leu Lys Val Leu Val Pro Val Leu Ala Val Leu
 275 280 285
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 His Arg Ser Tyr Thr Gly Pro Lys Thr Val Gln Leu Glu Leu Thr Asp
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 Gln Val Ser Ser Asp Val Asp Glu Gln Leu Ser Lys Ser Val Lys Asp
 35 40 45
 Lys Val Leu Leu Pro Cys Arg Tyr Asn Ser Pro His Glu Asp Glu Ser
 50 55 60
 Glu Asp Arg Ile Tyr Trp Gln Lys His Asp Lys Val Val Leu Ser Val
 65 70 75 80

Ile Ala Gly Lys Leu Lys Val Trp Pro Glu Tyr Lys Asn Arg Thr Leu
 85 90 95
 Tyr Asp Asn Thr Thr Tyr Ser Leu Ile Ile Leu Gly Leu Val Leu Ser
 100 105 110
 Asp Arg Gly Thr Tyr Ser Cys Val Val Gln Lys Lys Glu Arg Gly Thr
 115 120 125
 Tyr Glu Val Lys His Leu Ala Leu Val Lys Leu Ser Ile Lys Ala Asp
 130 135 140
 Phe Ser Thr Pro Asn Ile Thr Glu Ser Gly Asn Pro Ser Ala Asp Thr
 145 150 155 160
 Lys Arg Ile Thr Cys Phe Ala Ser Gly Gly Phe Pro Lys Pro Arg Phe
 165 170 175
 Ser Trp Leu Glu Asn Gly Arg Glu Leu Pro Gly Ile Asn Thr Thr Ile
 180 185 190
 Ser Gln Asp Pro Glu Ser Glu Leu Tyr Thr Ile Ser Ser Gln Leu Asp
 195 200 205
 Phe Asn Thr Thr Arg Asn His Thr Ile Lys Cys Leu Ile Lys Tyr Gly
 210 215 220
 Asp Ala His Val Ser Glu Asp Phe Thr Trp Glu Lys Pro Pro Glu Asp
 225 230 235 240
 Pro Pro Asp Ser Lys Asn Thr Leu Val Leu Phe Gly Ala Gly Phe Gly
 245 250 255
 Ala Val Ile Thr Val Val Val Ile Val Val Ile Ile Lys Cys Phe Cys
 260 265 270
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 Phe Leu
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20 25 30
Leu Phe Xaa Leu Leu Xaa Xaa Xaa Ser Xaa Xaa Xaa Xaa Xaa Xaa
35 40 45
Xaa Xaa Xaa Xaa Xaa Xaa Val Xaa Xaa Xaa Val Xaa Leu Xaa Cys Xaa
50 55 60
Xaa Xaa Xaa Xaa Xaa His Xaa Xaa Xaa Ser Xaa Xaa Xaa Xaa Tyr Trp
65 70 75 80
Gln Xaa Xaa Xaa Xaa Xaa Val Xaa Xaa Xaa Xaa Xaa Leu Xaa Xaa Xaa
85 90 95
Xaa Xaa Xaa Xaa Xaa Val Xaa Xaa Xaa Tyr Lys Asn Arg Xaa Xaa Xaa
100 105 110
Xaa Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Ser Leu Xaa Xaa Xaa Xaa
115 120 125
Xaa Xaa Xaa Xaa Asp Xaa Xaa Xaa Xaa Xaa Cys Xaa Val Xaa Xaa Xaa
130 135 140
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Val Xaa Leu Xaa
145 150 155 160
Xaa Xaa Ala Xaa Phe Ser Thr Pro Xaa Ile Xaa Xaa Ser Xaa Xaa Xaa
165 170 175
Xaa Xaa Xaa Xaa Xaa Arg Xaa Xaa Thr Cys Xaa Xaa Xaa Xaa Gly Xaa
180 185 190
Pro Xaa Pro Xaa Xaa Xaa Trp Xaa Xaa Asn Xaa Xaa Xaa Xaa Xaa
195 200 205
Ile Xaa Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
210 215 220
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Xaa Xaa Xaa
225 230 235 240
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245 250 255
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Xaa Glu Xaa Thr Xaa Xaa Xaa
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<213> Homo sapiens

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96
Arg Ala Asp Thr Gln Glu Lys Glu Val Arg Ala Met Val Gly Ser Asp
20 25 30

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144
Val Glu Leu Ser Cys Ala Cys Pro Glu Gly Ser Arg Phe Asp Leu Asn
35 40 45

gat gtt tac gta tat tgg caa acc agt gag tcg aaa acc gtg gtg acc
192
Asp Val Tyr Val Tyr Trp Gln Thr Ser Glu Ser Lys Thr Val Val Thr
50 55 60

tac cac atc cca cag aac agc tcc ttg gaa aac gtg gac agc cgc tac
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Tyr His Ile Pro Gln Asn Ser Ser Leu Glu Asn Val Asp Ser Arg Tyr
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cgg aac cga gcc ctg atg tca ccg gcc ggc atg ctg cgg ggc gac ttc
288
Arg Asn Arg Ala Leu Met Ser Pro Ala Gly Met Leu Arg Gly Asp Phe
85 90 95

tcc ctg cgc ttg ttc aac gtc acc ccc cag gac gag cag aag ttt cac
336
Ser Leu Arg Leu Phe Asn Val Thr Pro Gln Asp Glu Gln Lys Phe His
100 105 110

tgc ctg gtg ttg agc caa tcc ctg gga ttc cag gag gtt ttg agc gtt
384
Cys Leu Val Leu Ser Gln Ser Leu Gly Phe Gln Glu Val Leu Ser Val
115 120 125

gag gtt aca ctg cat gtg gca gca aac ttc agc gtg ccc gtc gtc agc
432

Glu Val Thr Leu His Val Ala Ala Asn Phe Ser Val Pro Val Val Ser
 130 135 140
 gcc ccc cac agc ccc tcc cag gat gag ctc acc ttc acg tgt aca tcc
 480
 Ala Pro His Ser Pro Ser Gln Asp Glu Leu Thr Phe Thr Cys Thr Ser
 145 150 155 160
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 528
 Ile Asn Gly Tyr Pro Arg Pro Asn Val Tyr Trp Ile Asn Lys Thr Asp
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 Asn Ser Leu Leu Asp Gln Ala Leu Gln Asn Asp Thr Val Phe Leu Asn
 180 185 190
 atg cgg ggc ttg tat gac gtg gtc agc gtg ctg agg atc gca cgg acc
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 Met Arg Gly Leu Tyr Asp Val Val Ser Val Leu Arg Ile Ala Arg Thr
 195 200 205
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 Pro Ser Val Asn Ile Gly Cys Cys Ile Glu Asn Val Leu Leu Gln Gln
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 Asn Leu Thr Val Gly Ser Gln Thr Gly Asn Asp Ile Gly Glu Arg Asp
 225 230 235 240
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 768
 Lys Ile Thr Glu Asn Pro Val Ser Thr Gly Glu Lys Asn Ala Ala Thr
 245 250 255
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 Trp Ser Ile Leu Ala Val Leu Cys Leu Leu Val Val Val Ala Val Ala
 260 265 270
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 275 280 285

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<213> Homo sapiens

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 35 40 45
 Asp Val Tyr Val Tyr Trp Gln Thr Ser Glu Ser Lys Thr Val Val Thr
 50 55 60
 Tyr His Ile Pro Gln Asn Ser Ser Leu Glu Asn Val Asp Ser Arg Tyr
 65 70 75 80
 Arg Asn Arg Ala Leu Met Ser Pro Ala Gly Met Leu Arg Gly Asp Phe
 85 90 95
 Ser Leu Arg Leu Phe Asn Val Thr Pro Gln Asp Glu Gln Lys Phe His
 100 105 110
 Cys Leu Val Leu Ser Gln Ser Leu Gly Phe Gln Glu Val Leu Ser Val
 115 120 125
 Glu Val Thr Leu His Val Ala Ala Asn Phe Ser Val Pro Val Val Ser
 130 135 140
 Ala Pro His Ser Pro Ser Gln Asp Glu Leu Thr Phe Thr Cys Thr Ser
 145 150 155 160
 Ile Asn Gly Tyr Pro Arg Pro Asn Val Tyr Trp Ile Asn Lys Thr Asp
 165 170 175
 Asn Ser Leu Leu Asp Gln Ala Leu Gln Asn Asp Thr Val Phe Leu Asn
 180 185 190
 Met Arg Gly Leu Tyr Asp Val Val Ser Val Leu Arg Ile Ala Arg Thr
 195 200 205
 Pro Ser Val Asn Ile Gly Cys Cys Ile Glu Asn Val Leu Leu Gln Gln
 210 215 220
 Asn Leu Thr Val Gly Ser Gln Thr Gly Asn Asp Ile Gly Glu Arg Asp
 225 230 235 240
 Lys Ile Thr Glu Asn Pro Val Ser Thr Gly Glu Lys Asn Ala Ala Thr
 245 250 255
 Trp Ser Ile Leu Ala Val Leu Cys Leu Leu Val Val Val Ala Val Ala
 260 265 270

Ile Gly Trp Val Cys Arg Asp Arg Cys Leu Gln His Ser Tyr Ala Gly
275 280 285

<210> 13

<211> 267

<212> PRT

<213> Homo sapiens

<400> 13

Glu Lys Glu Val Arg Ala Met Val Gly Ser Asp Val Glu Leu Ser Cys
1 5 10 15

Ala Cys Pro Glu Gly Ser Arg Phe Asp Leu Asn Asp Val Tyr Val Tyr
20 25 30

Trp Gln Thr Ser Glu Ser Lys Thr Val Val Thr Tyr His Ile Pro Gln
35 40 45

Asn Ser Ser Leu Glu Asn Val Asp Ser Arg Tyr Arg Asn Arg Ala Leu
50 55 60

Met Ser Pro Ala Gly Met Leu Arg Gly Asp Phe Ser Leu Arg Leu Phe
65 70 75 80

Asn Val Thr Pro Gln Asp Glu Gln Lys Phe His Cys Leu Val Leu Ser
85 90 95

Gln Ser Leu Gly Phe Gln Glu Val Leu Ser Val Glu Val Thr Leu His
100 105 110

Val Ala Ala Asn Phe Ser Val Pro Val Val Ser Ala Pro His Ser Pro
115 120 125

Ser Gln Asp Glu Leu Thr Phe Thr Cys Thr Ser Ile Asn Gly Tyr Pro
130 135 140

Arg Pro Asn Val Tyr Trp Ile Asn Lys Thr Asp Asn Ser Leu Leu Asp
145 150 155 160

Gln Ala Leu Gln Asn Asp Thr Val Phe Leu Asn Met Arg Gly Leu Tyr
165 170 175

Asp Val Val Ser Val Leu Arg Ile Ala Arg Thr Pro Ser Val Asn Ile
180 185 190

Gly Cys Cys Ile Glu Asn Val Leu Leu Gln Gln Asn Leu Thr Val Gly
195 200 205

Ser Gln Thr Gly Asn Asp Ile Gly Glu Arg Asp Lys Ile Thr Glu Asn
210 215 220

Pro Val Ser Thr Gly Glu Lys Asn Ala Ala Thr Trp Ser Ile Leu Ala
225 230 235 240

Val Leu Cys Leu Leu Val Val Val Ala Val Ala Ile Gly Trp Val Cys
245 250 255

Arg Asp Arg Cys Leu Gln His Ser Tyr Ala Gly
260 265

<210> 14

<211> 276

<212> PRT

<213> Mus musculus

<400> 14

U
Glu Thr Glu Val Gly Ala Met Val Gly Ser Asn Val Val Leu Ser Cys
1 5 10 15
Ile Asp Pro His Arg Arg His Phe Asn Leu Ser Gly Leu Tyr Val Tyr
20 25 30
Trp Gln Ile Glu Asn Pro Glu Val Ser Val Thr Tyr Tyr Leu Pro Tyr
35 40 45
Lys Ser Pro Gly Ile Asn Val Asp Ser Ser Tyr Lys Asn Arg Gly His
50 55 60
Leu Ser Leu Asp Ser Met Lys Gln Gly Asn Phe Ser Leu Tyr Leu Lys
65 70 75 80
Asn Val Thr Pro Gln Asp Thr Gln Glu Phe Thr Cys Arg Val Phe Met
85 90 95
Asn Thr Ala Thr Glu Leu Val Lys Ile Leu Glu Glu Val Val Arg Leu
100 105 110
Arg Val Ala Ala Asn Phe Ser Thr Pro Val Ile Ser Thr Ser Asp Ser
115 120 125
Ser Asn Pro Gly Gln Glu Arg Thr Tyr Thr Cys Met Ser Lys Asn Gly
130 135 140
Tyr Pro Glu Pro Asn Leu Tyr Trp Ile Asn Thr Thr Asp Asn Ser Leu
145 150 155 160
Ile Asp Thr Ala Leu Gln Asn Asn Thr Val Tyr Leu Asn Lys Leu Gly
165 170 175
Leu Tyr Asp Val Ile Ser Thr Leu Arg Leu Pro Trp Thr Ser Arg Gly
180 185 190
Asp Val Leu Cys Cys Val Glu Asn Val Ala Leu His Gln Asn Ile Thr
195 200 205
Ser Ile Ser Gln Ala Glu Ser Phe Thr Gly Asn Asn Thr Lys Asn Pro
210 215 220
Gln Glu Thr His Asn Asn Glu Leu Lys Val Leu Val Pro Val Leu Ala
225 230 235 240
Val Leu Ala Ala Ala Phe Val Ser Phe Ile Ile Tyr Arg Arg Thr
245 250 255

Arg Pro His Arg Ser Tyr Thr Gly Pro Lys Thr Val Gln Leu Glu Leu
260 265 270

Thr Asp His Ala
275

<210> 15

<211> 280

<212> PRT

<213> Artificial Sequence

<220>

<221> misc_feature

<222> (2)..(280)

<223> Xaa is an unspecified amino acid

C1
<400> 15

Glu Xaa Glu Val Xaa Ala Met Val Gly Ser Xaa Val Xaa Leu Ser Cys
1 5 10 15
Xaa Xaa Pro Xaa Xaa Xaa Xaa Phe Xaa Leu Xaa Xaa Xaa Tyr Val Tyr
20 25 30
Trp Gln Xaa Xaa Xaa Xaa Xaa Xaa Val Thr Tyr Xaa Xaa Pro Xaa
35 40 45
Xaa Ser Xaa Xaa Xaa Asn Val Asp Ser Xaa Tyr Xaa Asn Arg Xaa Xaa
50 55 60
Xaa Ser Xaa Xaa Xaa Met Xaa Xaa Gly Xaa Phe Ser Leu Xaa Leu Xaa
65 70 75 80
Asn Val Thr Pro Gln Asp Xaa Gln Xaa Phe Xaa Cys Xaa Val Xaa Xaa
85 90 95
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu Xaa Xaa Xaa Val Xaa Leu
100 105 110
Xaa Val Ala Ala Asn Phe Ser Xaa Pro Val Xaa Ser Xaa Xaa Xaa Ser
115 120 125
Xaa Xaa Xaa Xaa Xaa Glu Xaa Thr Xaa Thr Cys Xaa Ser Xaa Asn Gly
130 135 140
Tyr Pro Xaa Pro Asn Xaa Tyr Trp Ile Asn Xaa Thr Asp Asn Ser Leu
145 150 155 160
Xaa Asp Xaa Ala Leu Gln Asn Xaa Thr Val Xaa Leu Asn Xaa Xaa Gly
165 170 175
Leu Tyr Asp Val Xaa Ser Xaa Leu Arg Xaa Xaa Xaa Thr Xaa Xaa Xaa
180 185 190

Xaa Xaa Xaa Cys Cys Xaa Glu Asn Val Xaa Leu Xaa Gln Asn Xaa Thr
 195 200 205
 Xaa Xaa Ser Gln Xaa Xaa Xaa Xaa Gly Xaa Xaa Lys Xaa Xaa Xaa
 210 215 220
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Lys Xaa Xaa Xaa Xaa Xaa Xaa Leu
 225 230 235 240
 Ala Val Leu Xaa Xaa Xaa Xaa Xaa Val Xaa Xaa Xaa Ile Xaa Xaa Xaa
 245 250 255
 Xaa Arg Xaa Arg Xaa Xaa Xaa Xaa Ser Tyr Xaa Gly Xaa Xaa Xaa Xaa
 260 265 270
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 275 280

<210> 16

<211> 1294

<212> DNA

<213> Homo sapiens

<220>

<221> 5'UTR

<222> (1)..(199)

<220>

<221> CDS

<222> (200)..(1105)

<400> 16

gctgggtacgc ctgcaggtac cgggtccggaa ttcccggggtc gaccacgcg tccgcccacg
60

cgtccgcggg agcgcagtta gagccgatct cccgcgcccc gaggttgctc ctctccgagg
120

tctcccgcgg cccaagttct ccgcgccccg aggtctccgc gccccgaggt ctccgcggcc
180

cgaggtctcc gcccgcacc atg cgg ctg ggc agt cct gga ctg ctc ttc ctg
232

Met Arg Leu Gly Ser Pro Gly Leu Leu Phe Leu
1 5 10

ctc ttc agc agc ctt cga gct gat act cag gag aag gaa gtc aga gcg
280

Leu Phe Ser Ser Leu Arg Ala Asp Thr Gln Glu Lys Glu Val Arg Ala
15 20 25

atg gta ggc agc gac gtg gag ctc agc tgc gct tgc cct gaa gga agc
 328
 Met Val Gly Ser Asp Val Glu Leu Ser Cys Ala Cys Pro Glu Gly Ser
 30 35 40

cgt ttt gat tta aat gat gtt tac gta tat tgg caa acc agt gag tcg
 376
 Arg Phe Asp Leu Asn Asp Val Tyr Val Tyr Trp Gln Thr Ser Glu Ser
 45 50 55

aaa acc gtg gtg acc tac cac atc cca cag aac agc tcc ttg gaa aac
 424
 Lys Thr Val Val Thr Tyr His Ile Pro Gln Asn Ser Ser Leu Glu Asn
 60 65 70 75

gtg gac agc cgc tac cgg aac cga gcc ctg atg tca ccg gcc ggc atg
 472
 Val Asp Ser Arg Tyr Arg Asn Arg Ala Leu Met Ser Pro Ala Gly Met
 80 85 90

ctg cgg ggc gac ttc tcc ctg cgc ttg ttc aac gtc acc ccc cag gac
 520
 Leu Arg Gly Asp Phe Ser Leu Arg Leu Phe Asn Val Thr Pro Gln Asp
 95 100 105

gag cag aag ttt cac tgc ctg gtg ttg agc caa tcc ctg gga ttc cag
 568
 Glu Gln Lys Phe His Cys Leu Val Leu Ser Gln Ser Leu Gly Phe Gln
 110 115 120

gag gtt ttg agc gtt gag gtt aca ctg cat gtg gca gca aac ttc agc
 616
 Glu Val Leu Ser Val Glu Val Thr Leu His Val Ala Ala Asn Phe Ser
 125 130 135

gtg ccc gtc gtc agc gcc ccc cac agc ccc tcc cag gat gag ctc acc
 664
 Val Pro Val Val Ser Ala Pro His Ser Pro Ser Gln Asp Glu Leu Thr
 140 145 150 155

ttc acg tgt aca tcc ata aac ggc tac ccc agg ccc aac gtg tac tgg
 712
 Phe Thr Cys Thr Ser Ile Asn Gly Tyr Pro Arg Pro Asn Val Tyr Trp
 160 165 170

atc aat aag acg gac aac agc ctg ctg gac cag gct ctg cag aat gac
 760
 Ile Asn Lys Thr Asp Asn Ser Leu Leu Asp Gln Ala Leu Gln Asn Asp
 175 180 185

acc gtc ttc ttg aac atg cgg ggc ttg tat gac gtg gtc agc gtg ctg
 808
 Thr Val Phe Leu Asn Met Arg Gly Leu Tyr Asp Val Val Ser Val Leu
 190 195 200

agg atc gca cgg acc ccc agc gtg aac att ggc tgc tgc ata gag aac
 856
 Arg Ile Ala Arg Thr Pro Ser Val Asn Ile Gly Cys Cys Ile Glu Asn
 205 210 215

gtg ctt ctg cag cag aac ctg act gtc ggc agc cag aca gga aat gac
 904
 Val Leu Leu Gln Gln Asn Leu Thr Val Gly Ser Gln Thr Gly Asn Asp
 220 225 230 235

atc gga gag aga gac aag atc aca gag aat cca gtc agt acc ggc gag
 952
 Ile Gly Glu Arg Asp Lys Ile Thr Glu Asn Pro Val Ser Thr Gly Glu
 240 245 250

aaa aac gcg gcc acg tgg agc atc ctg gct gtc ctg tgc ctg ctt gtg
 1000
 Lys Asn Ala Ala Thr Trp Ser Ile Leu Ala Val Leu Cys Leu Leu Val
 255 260 265

gtc gtg gcg gtg gcc ata ggc tgg gtg tgc agg gac cga tgc ctc caa
 1048
 Val Val Ala Val Ala Ile Gly Trp Val Cys Arg Asp Arg Cys Leu Gln
 270 275 280

cac agc tat gca ggt gcc tgg gct gtg agt ccg gag aca gag ctc act
 1096
 His Ser Tyr Ala Gly Ala Trp Ala Val Ser Pro Glu Thr Glu Leu Thr
 285 290 295

ggc cac gtt tgaccggagc tcaccgcca gagcgtggac agggcttccg
 1145
 Gly His Val
 300

tgagacgcca ccgtgagagg ccaggtggca gcttgagcat ggactcccag actgcagggg
 1205

agcacttggg gcagcccca gaaggaccac tgctggatcc cagggagaac ctgctggcgt
 1265

tggctgtgat cctggaatga ggccctttc
 1294

<210> 17

<211> 302

<212> PRT

<213> Homo sapiens

<400> 17

Met Arg Leu Gly Ser Pro Gly Leu Leu Phe Leu Leu Phe Ser Ser Leu
 1 5 10 15

Arg Ala Asp Thr Gln Glu Lys Glu Val Arg Ala Met Val Gly Ser Asp
 20 25 30

Val Glu Leu Ser Cys Ala Cys Pro Glu Gly Ser Arg Phe Asp Leu Asn
 35 40 45

Asp Val Tyr Val Tyr Trp Gln Thr Ser Glu Ser Lys Thr Val Val Thr
 50 55 60

Tyr His Ile Pro Gln Asn Ser Ser Leu Glu Asn Val Asp Ser Arg Tyr
65 70 75 80

Arg Asn Arg Ala Leu Met Ser Pro Ala Gly Met Leu Arg Gly Asp Phe
85 90 95

Ser Leu Arg Leu Phe Asn Val Thr Pro Gln Asp Glu Gln Lys Phe His
100 105 110

Cys Leu Val Leu Ser Gln Ser Leu Gly Phe Gln Glu Val Leu Ser Val
115 120 125

Glu Val Thr Leu His Val Ala Ala Asn Phe Ser Val Pro Val Val Ser
130 135 140

Ala Pro His Ser Pro Ser Gln Asp Glu Leu Thr Phe Thr Cys Thr Ser
145 150 155 160

Ile Asn Gly Tyr Pro Arg Pro Asn Val Tyr Trp Ile Asn Lys Thr Asp
165 170 175

Asn Ser Leu Leu Asp Gln Ala Leu Gln Asn Asp Thr Val Phe Leu Asn
180 185 190

Met Arg Gly Leu Tyr Asp Val Val Ser Val Leu Arg Ile Ala Arg Thr
195 200 205

Pro Ser Val Asn Ile Gly Cys Cys Ile Glu Asn Val Leu Leu Gln Gln
210 215 220

Asn Leu Thr Val Gly Ser Gln Thr Gly Asn Asp Ile Gly Glu Arg Asp
225 230 235 240

Lys Ile Thr Glu Asn Pro Val Ser Thr Gly Glu Lys Asn Ala Ala Thr
245 250 255

Trp Ser Ile Leu Ala Val Leu Cys Leu Leu Val Val Val Ala Val Ala
260 265 270

Ile Gly Trp Val Cys Arg Asp Arg Cys Leu Gln His Ser Tyr Ala Gly
275 280 285

Ala Trp Ala Val Ser Pro Glu Thr Glu Leu Thr Gly His Val
290 295 300

<210> 18

<211> 302

<212> PRT

<213> Homo sapiens

<400> 18

Met Arg Leu Gly Ser Pro Gly Leu Leu Phe Leu Leu Phe Ser Ser Leu
1 5 10 15
Arg Ala Asp Thr Gln Glu Lys Glu Val Arg Ala Met Val Gly Ser Asp
20 25 30
Val Glu Leu Ser Cys Ala Cys Pro Glu Gly Ser Arg Phe Asp Leu Asn
35 40 45
Asp Val Tyr Val Tyr Trp Gln Thr Ser Glu Ser Lys Thr Val Val Thr
50 55 60
Tyr His Ile Pro Gln Asn Ser Ser Leu Glu Asn Val Asp Ser Arg Tyr
65 70 75 80
Arg Asn Arg Ala Leu Met Ser Pro Ala Gly Met Leu Arg Gly Asp Phe
85 90 95
Ser Leu Arg Leu Phe Asn Val Thr Pro Gln Asp Glu Gln Lys Phe His
100 105 110
Cys Leu Val Leu Ser Gln Ser Leu Gly Phe Gln Glu Val Leu Ser Val
115 120 125
Glu Val Thr Leu His Val Ala Ala Asn Phe Ser Val Pro Val Val Ser
130 135 140
Ala Pro His Ser Pro Ser Gln Asp Glu Leu Thr Phe Thr Cys Thr Ser
145 150 155 160
Ile Asn Gly Tyr Pro Arg Pro Asn Val Tyr Trp Ile Asn Lys Thr Asp
165 170 175
Asn Ser Leu Leu Asp Gln Ala Leu Gln Asn Asp Thr Val Phe Leu Asn
180 185 190
Met Arg Gly Leu Tyr Asp Val Val Ser Val Leu Arg Ile Ala Arg Thr
195 200 205
Pro Ser Val Asn Ile Gly Cys Cys Ile Glu Asn Val Leu Leu Gln Gln
210 215 220
Asn Leu Thr Val Gly Ser Gln Thr Gly Asn Asp Ile Gly Glu Arg Asp
225 230 235 240
Lys Ile Thr Glu Asn Pro Val Ser Thr Gly Glu Lys Asn Ala Ala Thr
245 250 255
Trp Ser Ile Leu Ala Val Leu Cys Leu Leu Val Val Val Ala Val Ala
260 265 270
Ile Gly Trp Val Cys Arg Asp Arg Cys Leu Gln His Ser Tyr Ala Gly
275 280 285
Ala Trp Ala Val Ser Pro Glu Thr Glu Leu Thr Gly His Val
290 295 300

<210> 19
 <211> 322
 <212> PRT
 <213> Mus musculus

<400> 19

Met Gln Leu Lys Cys Pro Cys Phe Val Ser Leu Gly Thr Arg Gln Pro
 1 5 10 15
 Val Trp Lys Lys Leu His Val Ser Ser Gly Phe Phe Ser Gly Leu Gly
 20 25 30
 Leu Phe Leu Leu Leu Leu Ser Ser Leu Cys Ala Ala Ser Ala Glu Thr
 35 40 45
 Glu Val Gly Ala Met Val Gly Ser Asn Val Val Leu Ser Cys Ile Asp
 50 55 60
 Pro His Arg Arg His Phe Asn Leu Ser Gly Leu Tyr Val Tyr Trp Gln
 65 70 75 80
 Ile Glu Asn Pro Glu Val Ser Val Thr Tyr Tyr Leu Pro Tyr Lys Ser
 85 90 95
 Pro Gly Ile Asn Val Asp Ser Ser Tyr Lys Asn Arg Gly His Leu Ser
 100 105 110
 Leu Asp Ser Met Lys Gln Gly Asn Phe Ser Leu Tyr Leu Lys Asn Val
 115 120 125
 Thr Pro Gln Asp Thr Gln Glu Phe Thr Cys Arg Val Phe Met Asn Thr
 130 135 140
 Ala Thr Glu Leu Val Lys Ile Leu Glu Glu Val Val Arg Leu Arg Val
 145 150 155 160
 Ala Ala Asn Phe Ser Thr Pro Val Ile Ser Thr Ser Asp Ser Ser Asn
 165 170 175
 Pro Gly Gln Glu Arg Thr Tyr Thr Cys Met Ser Lys Asn Gly Tyr Pro
 180 185 190
 Glu Pro Asn Leu Tyr Trp Ile Asn Thr Thr Asp Asn Ser Leu Ile Asp
 195 200 205
 Thr Ala Leu Gln Asn Asn Thr Val Tyr Leu Asn Lys Leu Gly Leu Tyr
 210 215 220
 Asp Val Ile Ser Thr Leu Arg Leu Pro Trp Thr Ser Arg Gly Asp Val
 225 230 235 240
 Leu Cys Cys Val Glu Asn Val Ala Leu His Gln Asn Ile Thr Ser Ile
 245 250 255
 Ser Gln Ala Glu Ser Phe Thr Gly Asn Asn Thr Lys Asn Pro Gln Glu
 260 265 270

Thr His Asn Asn Glu Leu Lys Val Leu Val Pro Val Leu Ala Val Leu
275 280 285

Ala Ala Ala Ala Phe Val Ser Phe Ile Ile Tyr Arg Arg Thr Arg Pro
290 295 300

His Arg Ser Tyr Thr Gly Pro Lys Thr Val Gln Leu Glu Leu Thr Asp
305 310 315 320

His Ala

<210> 20

<211> 329

<212> PRT

<213> Artificial Sequence

<220>

<221> misc_feature

<222> (2)..(329)

<223> Xaa is an unspecified amino acid

<400> 20

Met Xaa Leu Xaa Xaa Pro Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Leu Xaa
20 25 30

Leu Phe Xaa Leu Leu Xaa Ser Ser Leu Xaa Ala Xaa Xaa Xaa Glu Xaa
35 40 45

Glu Val Xaa Ala Met Val Gly Ser Xaa Val Xaa Leu Ser Cys Xaa Xaa
50 55 60

Pro Xaa Xaa Xaa Xaa Phe Xaa Leu Xaa Xaa Xaa Tyr Val Tyr Trp Gln
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Val Thr Tyr Xaa Xaa Pro Xaa Xaa Ser
85 90 95

Xaa Xaa Xaa Asn Val Asp Ser Xaa Tyr Xaa Asn Arg Xaa Xaa Xaa Ser
100 105 110

Xaa Xaa Xaa Met Xaa Xaa Gly Xaa Phe Ser Leu Xaa Leu Xaa Asn Val
115 120 125

Thr Pro Gln Asp Xaa Gln Xaa Phe Xaa Cys Xaa Val Xaa Xaa Xaa Xaa
130 135 140

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu Xaa Xaa Xaa Val Xaa Leu Xaa Val
145 150 155 160

Ala Ala Asn Phe Ser Xaa Pro Val Xaa Ser Xaa Xaa Xaa Ser Xaa Xaa
 165 170 175
 Xaa Xaa Xaa Glu Xaa Thr Xaa Thr Cys Xaa Ser Xaa Asn Gly Tyr Pro
 180 185 190
 Xaa Pro Asn Xaa Tyr Trp Ile Asn Xaa Thr Asp Asn Ser Leu Xaa Asp
 195 200 205
 Xaa Ala Leu Gln Asn Xaa Thr Val Xaa Leu Asn Xaa Xaa Gly Leu Tyr
 210 215 220
 Asp Val Xaa Ser Xaa Leu Arg Xaa Xaa Xaa Thr Xaa Xaa Xaa Xaa Xaa
 225 230 235 240
 Xaa Cys Cys Xaa Glu Asn Val Xaa Leu Xaa Gln Asn Xaa Thr Xaa Xaa
 245 250 255
 Ser Gln Xaa Xaa Xaa Xaa Xaa Gly Xaa Xaa Xaa Lys Xaa Xaa Xaa Xaa
 260 265 270
 Xaa Xaa Xaa Xaa Xaa Xaa Lys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu Ala
 275 280 285
 Val Leu Xaa Xaa Xaa Xaa Xaa Val Xaa Xaa Xaa Ile Xaa Xaa Xaa Xaa
 290 295 300
 Arg Xaa Arg Xaa Xaa Xaa Xaa Ser Tyr Xaa Gly Xaa Xaa Xaa Val Xaa
 305 310 315 320
 Xaa Glu Xaa Xaa Leu Thr Xaa His Xaa
 325

<210> 21

<211> 1370

<212> DNA

<213> Homo sapiens

<220>

<221> 5'UTR

<222> (1)..(165)

<220>

<221> CDS

<222> (166)..(762)

<400> 21

aacaatttca cacaggaaac agctatgacc atgattacgc caagctctaa tacgactcac
 60

tatagggaaa gctggtacgc ctgcaggtac cgggtccggaa ttcccgggtc gacccacgcg
120

tccgtgaaca ctgaacgcga ggactgttaa ctgtttctgg caaac atg aag tca ggc
177

Met Lys Ser Gly
1

ctc tgg tat ttc ttt ctc ttc tgc ttg cgc att aaa gtt tta aca gga
225
Leu Trp Tyr Phe Phe Leu Phe Cys Leu Arg Ile Lys Val Leu Thr Gly
5 10 15 20

gaa atc aat ggt tct gcc aat tat gag atg ttt ata ttt cac aac gga
273
Glu Ile Asn Gly Ser Ala Asn Tyr Glu Met Phe Ile Phe His Asn Gly
25 30 35

ggt gta caa att tta tgc aaa tat cct gac att gtc cag caa ttt aaa
321
Gly Val Gln Ile Leu Cys Lys Tyr Pro Asp Ile Val Gln Gln Phe Lys
40 45 50

atg cag ttg ctg aaa ggg ggg caa ata ctc tgc gat ctc act aag aca
369
Met Gln Leu Leu Lys Gly Gly Gln Ile Leu Cys Asp Leu Thr Lys Thr
55 60 65

aaa gga agt gga aac aca gtg tcc att aag agt ctg aaa ttc tgc cat
417
Lys Gly Ser Gly Asn Thr Val Ser Ile Lys Ser Leu Lys Phe Cys His
70 75 80

tct cag tta tcc aac aac agt gtc tct ttt ttt cta tac aac ttg gac
465
Ser Gln Leu Ser Asn Asn Ser Val Ser Phe Phe Leu Tyr Asn Leu Asp
85 90 95 100

cat tct cat gcc aac tat tac ttc tgc aac cta tca att ttt gat cct
513
His Ser His Ala Asn Tyr Tyr Phe Cys Asn Leu Ser Ile Phe Asp Pro
105 110 115

cct cct ttt aaa gta act ctt aca gga gga tat ttg cat att tat gaa
561
Pro Pro Phe Lys Val Thr Leu Thr Gly Gly Tyr Leu His Ile Tyr Glu
120 125 130

tca caa ctt tgt tgc cag ctg aag ttc tgg tta ccc ata gga tgt gca
609
Ser Gln Leu Cys Cys Gln Leu Lys Phe Trp Leu Pro Ile Gly Cys Ala
135 140 145

gcc ttt gtt gta gtc tgc att ttg gga tgc ata ctt att tgt tgg ctt
657
Ala Phe Val Val Val Cys Ile Leu Gly Cys Ile Leu Ile Cys Trp Leu
150 155 160

aca aaa aag aag tat tca tcc agt gtg cac gac cct aac ggt gaa tac
705
Thr Lys Lys Lys Tyr Ser Ser Ser Val His Asp Pro Asn Gly Glu Tyr
165 170 175 180

atg ttc atg aga gca gtg aac aca gcc aaa aaa tct aga ctc aca gat
 753
 Met Phe Met Arg Ala Val Asn Thr Ala Lys Lys Ser Arg Leu Thr Asp
 185 190 195

gtg acc cta taatatggaa ctctggcacc caggcatgaa gcacgttggc
 802
 Val Thr Leu

cagttttcct caacttgaag tgcaagattc tcttatttcc gggaccacgg agagtctgac
 862

ttaactacat acatcttctg ctggtgtttt gttcaatctg gaagaatgac tgtatcagtc
 922

aatggggatt ttaacagact gccttggtag tgccgagtcc tctcaaaaca aacaccctct
 982

tgcaaccagc tttggagaaa gccagctcc tgtgtgctca ctgggagtgg aatccctgtc
 1042

tccacatctg ctctagcag tgcacagcc agtaaaacaa acacatttac aagaaaaatg
 1102

ttttaaagat gccaggggta ctgaatctgc aaagcaaag agcagccaag gaccagcatc
 1162

tgtccgcatt tcactatcat actacctctt ctttctgtag ggatgagaat tcctctttta
 1222

atcagtcaag ggagatgctt caaagctgga gctattttat ttctgagatg ttgatgtgaa
 1282

ctgtacatta gtacatactc agtactctcc ttcaattgct gaaccccagt tgaccatttt
 1342

accaagactt tagatgcttt cttgtgcc
 1370

<210> 22

<211> 199

<212> PRT

<213> Homo sapiens

<400> 22

Met Lys Ser Gly Leu Trp Tyr Phe Phe Leu Phe Cys Leu Arg Ile Lys
 1 5 10 15

Val Leu Thr Gly Glu Ile Asn Gly Ser Ala Asn Tyr Glu Met Phe Ile
 20 25 30

Phe His Asn Gly Gly Val Gln Ile Leu Cys Lys Tyr Pro Asp Ile Val
 35 40 45

Gln Gln Phe Lys Met Gln Leu Leu Lys Gly Gly Gln Ile Leu Cys Asp
50 55 60

Leu Thr Lys Thr Lys Gly Ser Gly Asn Thr Val Ser Ile Lys Ser Leu
65 70 75 80

Lys Phe Cys His Ser Gln Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
85 90 95

Tyr Asn Leu Asp His Ser His Ala Asn Tyr Tyr Phe Cys Asn Leu Ser
100 105 110

Ile Phe Asp Pro Pro Pro Phe Lys Val Thr Leu Thr Gly Gly Tyr Leu
115 120 125

His Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Phe Trp Leu Pro
130 135 140

Ile Gly Cys Ala Ala Phe Val Val Val Cys Ile Leu Gly Cys Ile Leu
145 150 155 160

Ile Cys Trp Leu Thr Lys Lys Lys Tyr Ser Ser Ser Val His Asp Pro
165 170 175

Asn Gly Glu Tyr Met Phe Met Arg Ala Val Asn Thr Ala Lys Lys Ser
180 185 190

Arg Leu Thr Asp Val Thr Leu
195

<210> 23

<211> 199

<212> PRT

<213> Homo sapiens

<400> 23

Met Lys Ser Gly Leu Trp Tyr Phe Phe Leu Phe Cys Leu Arg Ile Lys
1 5 10 15

Val Leu Thr Gly Glu Ile Asn Gly Ser Ala Asn Tyr Glu Met Phe Ile
20 25 30

Phe His Asn Gly Gly Val Gln Ile Leu Cys Lys Tyr Pro Asp Ile Val
35 40 45

Gln Gln Phe Lys Met Gln Leu Leu Lys Gly Gly Gln Ile Leu Cys Asp
50 55 60

Leu Thr Lys Thr Lys Gly Ser Gly Asn Thr Val Ser Ile Lys Ser Leu
 65 70 75 80
 Lys Phe Cys His Ser Gln Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
 85 90 95
 Tyr Asn Leu Asp His Ser His Ala Asn Tyr Tyr Phe Cys Asn Leu Ser
 100 105 110
 Ile Phe Asp Pro Pro Pro Phe Lys Val Thr Leu Thr Gly Gly Tyr Leu
 115 120 125
 His Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Phe Trp Leu Pro
 130 135 140
 Ile Gly Cys Ala Ala Phe Val Val Val Cys Ile Leu Gly Cys Ile Leu
 145 150 155 160
 Ile Cys Trp Leu Thr Lys Lys Lys Tyr Ser Ser Ser Val His Asp Pro
 165 170 175
 Asn Gly Glu Tyr Met Phe Met Arg Ala Val Asn Thr Ala Lys Lys Ser
 180 185 190
 Arg Leu Thr Asp Val Thr Leu
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Met Lys Pro Tyr Phe Cys Arg Val Phe Val Phe Cys Phe Leu Ile Arg
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 20 25 30
 Phe His Asn Gly Gly Val Gln Ile Ser Cys Lys Tyr Pro Glu Thr Val
 35 40 45
 Gln Gln Leu Lys Met Arg Leu Phe Arg Glu Arg Glu Val Leu Cys Glu
 50 55 60
 Leu Thr Lys Thr Lys Gly Ser Gly Asn Ala Val Ser Ile Lys Asn Pro
 65 70 75 80
 Met Leu Cys Leu Tyr His Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
 85 90 95
 Asn Asn Pro Asp Ser Ser Gln Gly Ser Tyr Tyr Phe Cys Ser Leu Ser
 100 105 110
 Ile Phe Asp Pro Pro Pro Phe Gln Glu Arg Asn Leu Ser Gly Gly Tyr
 115 120 125

Leu His Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Leu Trp Leu
 130 135 140
 Pro Val Gly Cys Ala Ala Phe Val Val Val Leu Leu Phe Gly Cys Ile
 145 150 155 160
 Leu Ile Ile Trp Phe Ser Lys Lys Lys Tyr Gly Ser Ser Val His Asp
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 Pro Asn Ser Glu Tyr Met Phe Met Ala Ala Val Asn Thr Asn Lys Lys
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 Ser Arg Leu Ala Gly Val Thr Ser
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Cont
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